TASK FORCE WEB

Application Integration
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Integration Planning

- Several interdependent decisions are required
  - Decision
  - Type of Integration
  - Application Content to Provide Through the Portal
  - Technologies to Use for Integration
  - Configuration Options
  - Design Decisions

Type of Integration

- The goal is to generate portlet content that behaves in a portal-compatible and user-friendly manner.
- The recommendations and requirements to meet this goal have been separated into “Content Integration Types”.
- Choices are:
  - Reference integration (lowest compatibility)
  - External content integration
  - Content integration (highest compatibility)

Characteristics of Integration Types

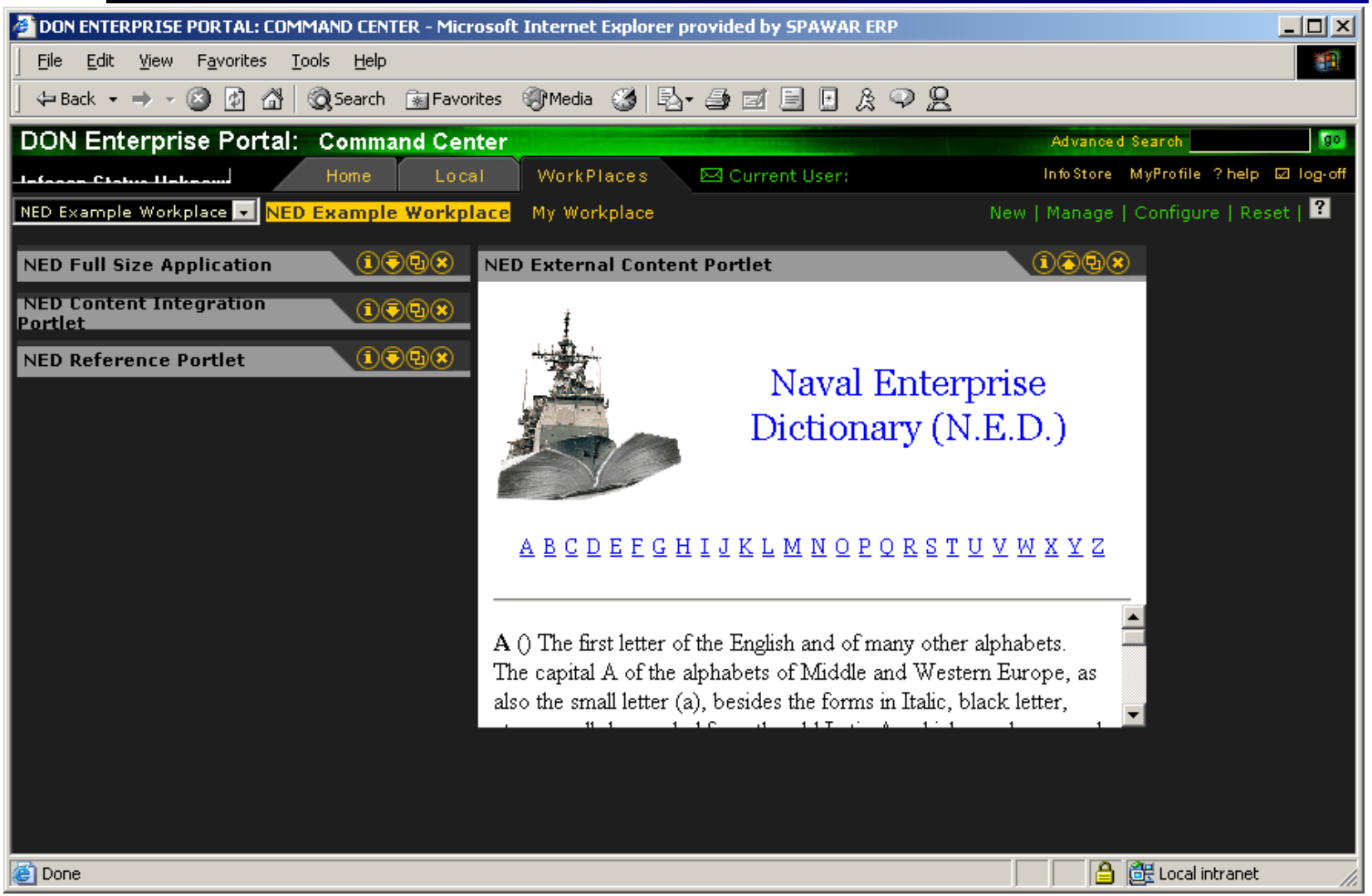
See the NEADG for more information.

Portlet Characteristic	Portlet Integration Types		
	Reference Integration	External Content Integration	Content Integration
UFS Output	HTML or XML/XSL		
Portal Look-and-Feel Integration	Recommended	Recommended	Required
Compatible with Portal Reverse Proxy (URL Rewrite)	Recommended	Required	
Portal-Controlled iFrame compatibility	Recommended	Required	
HTML BASE TAG for relative references vs. absolute references	Recommended	As required	
Portal Rendering of XML/XSL to HTML (XSLT)	As an external service call only	Supported in Portal XML Rendering Service (Xalan-Java version 2.2.D11), as an external service call	
Mobile Code (Applets, ActiveX)	Allowed within TFWeb policies and guidelines		
Client-Side Script	Supported	Supported with the following restrictions: Frame refs can not refer to '_top' frame No dynamically generated URL links	
Application-Controlled Frames / iFrames	Supported	Supported with the following restrictions: Cannot target '_top' frame. Frame refs should be named.	
Popup child windows	Supported	Supported, if in response to user interaction within the frame that launches the child window	
UNICODE Support	Recommended		

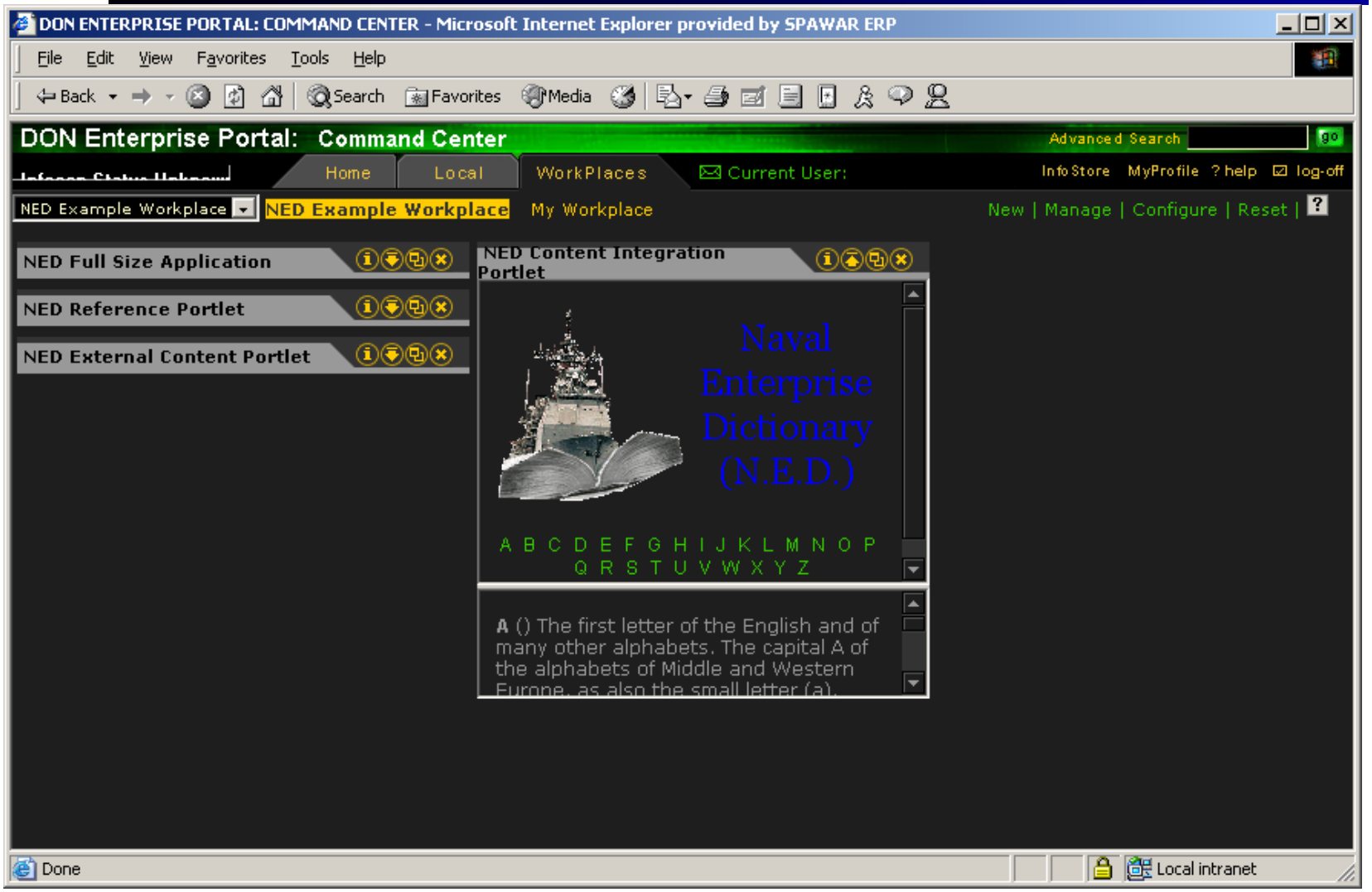
Reference Portlet Example

DON ENTERPRISE PORTAL: COMMAND CENTER - Microsoft Internet Explorer provided by SPAWAR ERP
File Edit View Favorites Tools Help
Back Search Favorites Media
DON Enterprise Portal: Command Center
Home Local WorkPlaces Current User:
NED Example Workplace
NED Example Workplace
My Workplace
NED Full Size Application
NED External Content Portlet
NED Content Integration Portlet
NED Reference Portlet
Click
Naval Enterprise Dictionary (N.E.D.)
Done
Local intranet
Navy Enterprise Dictionary - Microsoft Internet Explorer provided by SPAWAR ERP
File Edit View Favorites Tools Help
Back Search Favorites Media
Naval Enterprise Dictionary (N.E.D.)
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
Portague (n.) A Portuguese gold coin formerly current, and variously estimated to be worth from three and one half to four and one half pounds sterling.
Portal (n.) A door or gate; hence, a way of entrance or exit, especially one that is grand and imposing.
Portal (n.) The lesser gate, where there are two of different dimensions.
Local intranet

External Content Portlet Example


DON ENTERPRISE PORTAL: COMMAND CENTER - Microsoft Internet Explorer provided by SPAWAR ERP
File Edit View Favorites Tools Help
Back Search Favorites Media
DON Enterprise Portal: Command Center
Advanced Search
go
Home
Local
WorkPlaces
Current User:
InfoStore MyProfile ? help log-off
NED Example Workplace
NED Example Workplace
My Workplace
New | Manage | Configure | Reset |
NED Full Size Application
NED Content Integration Portlet
NED Reference Portlet
NED External Content Portlet
Naval Enterprise Dictionary (N.E.D.)
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
A () The first letter of the English and of many other alphabets. The capital A of the alphabets of Middle and Western Europe, as also the small letter (a), besides the forms in Italic, black letter,
Done
Local intranet

Content Integration Portlet Example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Advanced Search
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InfoStore MyProfile ? help log-off
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Q R S T U V W X Y Z
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Done
Local intranet

Application Content

- Decision includes:
  - What application content (information and/or services) is exposed to users through the portal
  - How this content is presented to the portal user
- Driven by user (ashore and afloat) requirements
- Usability of the content or service (from the user's perspective) is an important factor
- Most usable presentation:
  - Presents content at proper summary level
  - Allows drill-down or access to additional information, if required
  - Uses a relatively compact portlet
  - Displays information that is immediately useful

Integration Technologies

- Major technology choices (currently):
  - Implement UFS as a Web Service or a simple Web module
    - Web service implies using SOAP and defining the Web service interface using WSDL
  - Returning markup (HTML) from the UFS or returning unformatted XML data
    - Returning XML requires using XSL to create a stylesheet to transform the data for presentation
- Note that the choice of implementation technologies and the choice of integration type are independent decisions

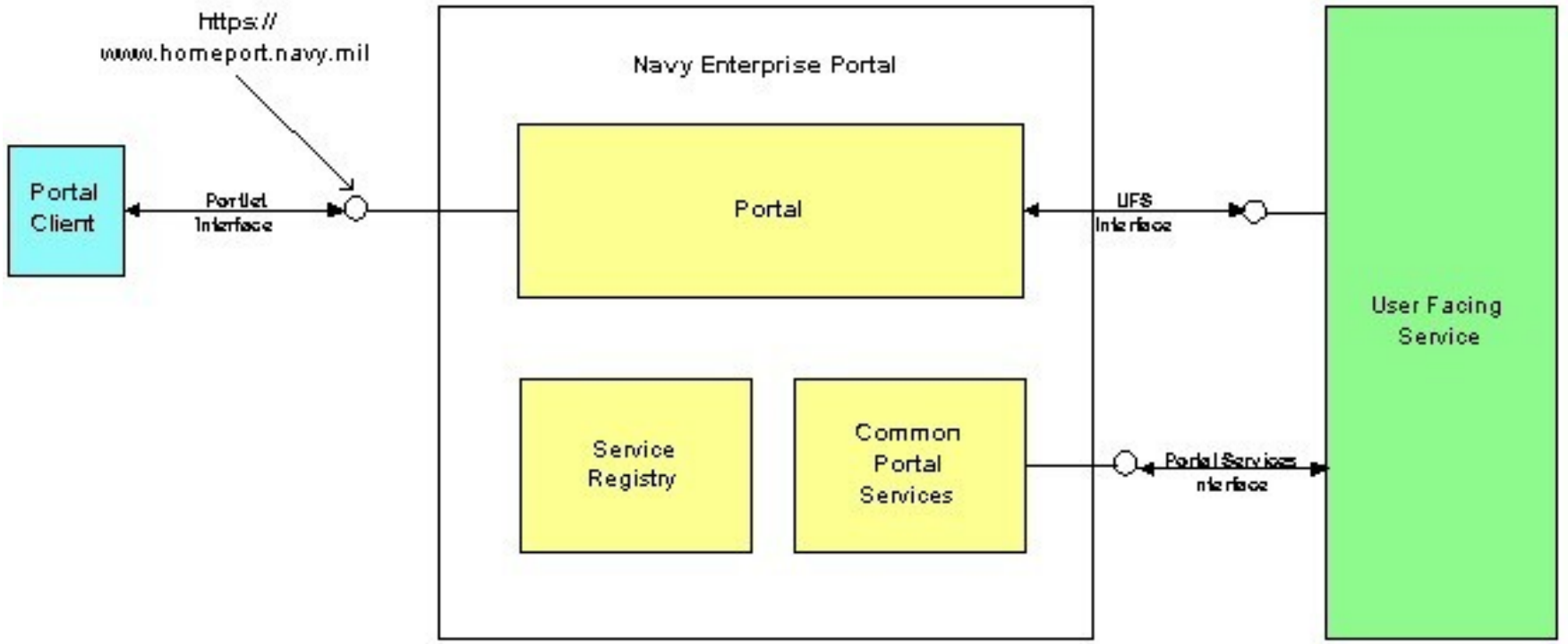
Configuration Options

- Static parameters (metadata) associated with the UFS
- May be specified by the developer; otherwise default values are used
- Some examples:
  - Flag indicating if the Portal context metadata (PRIdata) should be sent in requests to the UFS
  - Flag indicating if Portal will rewrite URLs in the UFS output
  - Flag indicating if Portal will auto-insert a cascading style sheet (CSS) reference in the UFS output

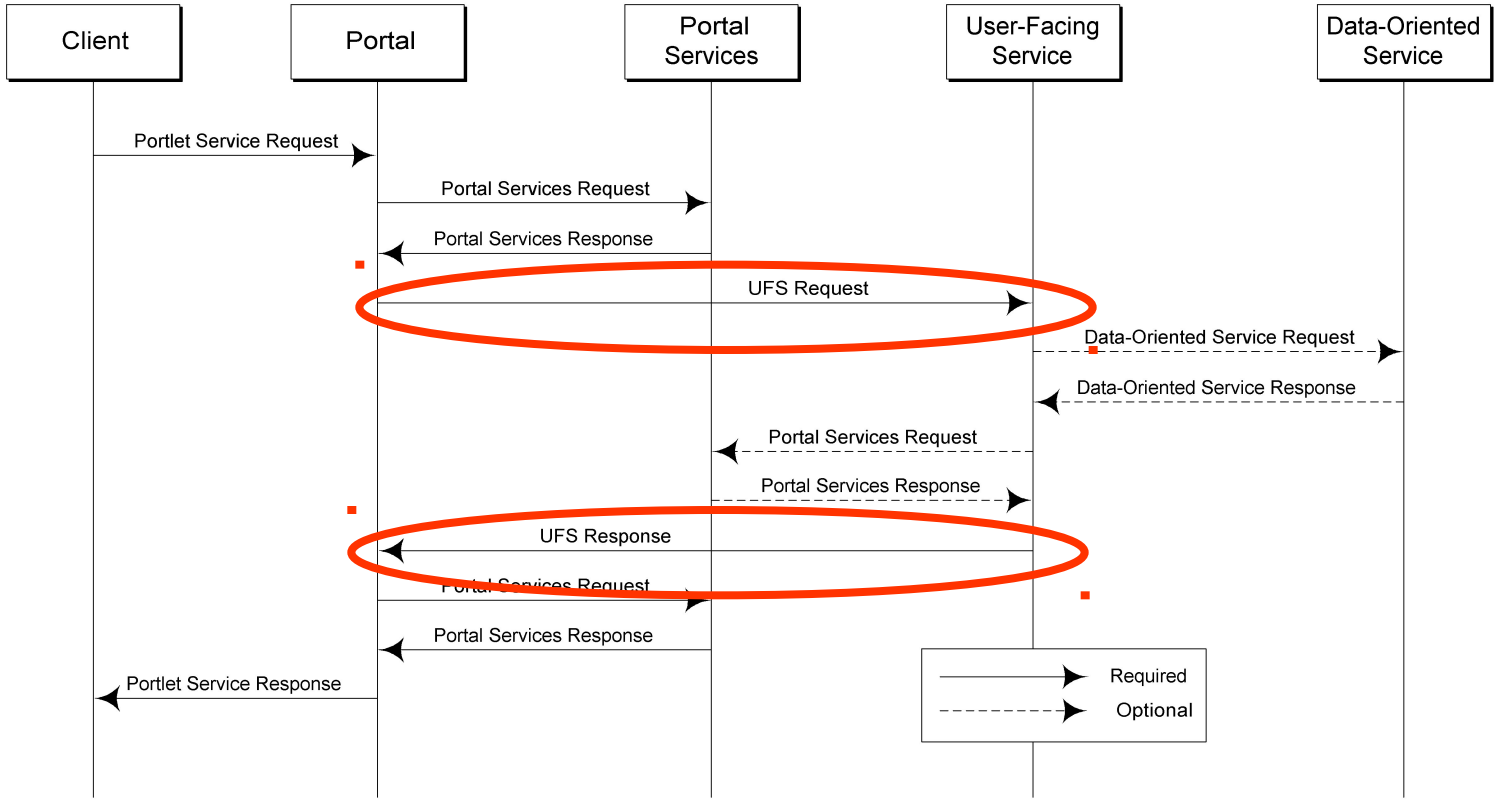
Design Decisions

- Decisions made by the UFS developer that affect the scope and responsibilities of the UFS
- Some examples:
  - Using the Common Identity (user's portal logon id) in the UFS
  - Performing re-authentication of the user
  - Maintaining state across UFS calls

NEP Architecture



Interface Execution



UFS/Portal Interaction

- The *Portlet Interface* is used to invoke the UFS each time a user brings up a workspace containing the portlet.
  - An HTTP request is sent to the UFS based on the information supplied in the Service Registry. The invocation method is either a normal HTTP request or a SOAP envelope over an HTTP binding, based on the tModel associated with the UFS.
- The *UFS Interface* is the response to the portal request.
  - An HTTP response is returned to the portal containing the HTML or XML/XSL used to render the content for the user. For Web Services (WSDL) based responses, the content is contained in a SOAP envelope.

Portlet Interface

- When a UFS is published in the NEP, it is coded as a call to the PortalConnector servlet. Invocation of the UFS looks like the following, taking all defaults:

  https://www.nep.navy.mil/servlet/PortalConnector?serviceKey=0A837A83-D8DE-43F4-A281-EC2981CB03A

  - The serviceKey parameter is the service registry bindingKey for the service, from the UDDI specification.
- The developer may choose to accept the default behavior, or provide the portal administrator with optional parameters in the application registration metadata.

Portlet Interface Examples

- Request invocation as a web service
  https://www.nep.navy.mil/servlet/PortalConnector?serviceKey=0A837A83-D8DE-43F4-A281-EC2981CB03A**&operation=getQuote**
  - This invocation will call the service from the private registry and generate a form to request any required messages (parameters)
- Get PRIData and Common Identity
  https://www.nep.navy.mil/servlet/PortalConnector?serviceKey=0A837A83-D8DE-43F4-A281-EC2981CB03A**&sendIdentity=Y&sendPRI=Y**
  - This invocation requests that the PRIData XML data be sent in either HTTP header or SOAP header format and that the HTTP authorization header is attached.

UFS Interface

- The UFS Interface is a standard HTTP 1.1 compliant request/response pair as defined in *RFC 2616, Hypertext Transfer Protocol – HTTP/1.1.* Only the HTTP binding is currently supported.
- There are two types of messages:
  - Messages with a SOAP envelope (wsdlSpec tModel)
  - Messages without a SOAP envelope (http transport tModel)

UFS Interface Default Behavior

- For normal interaction, the requirement is an HTTP response containing the HTML, XML or XML/XSL to generate the content presentation. In other words, a normal web response.
- The response must contain a SOAP envelope for WSDL interfaces

UFS Interface Optional Features

- Retrieve and use Common Identity (sendIdentity=Y)
- Authenticate and authorize user to access service resources
- Retrieve, parse and use metadata from the PRI (sendPRI=Y)
- Integrate portal look and feel CSS styles
- Perform application domain specific functions
- Interact with other services (DOS, RDBMS, etc)
- Perform XML rendering (renderXML=N)
- Perform URL rewrite or proxy operations (rewriteURL=N)
- Generate and return error codes (HTTP, PRI Response or SOAP Fault)